Sixth Embodiment

A sixth embodiment of the present invention will now be
described.

The components of the sixth embodiment and the processing
operations performed by the components are the same as
those in the second embodiment, with the exception that,
after the 3D computer model of the subject object has
been generated at step S4-38, the 3D computer model is
re-positioned relative to the default viewing camera so
that the viewing axis of the default viewing camera more
accurately intersects the approximate centre of the 3D
computer model.

More particularly, in the sixth embodiment, after the 3D
computer model has been generated at step S4-38,
processing is performed in the same way as in the first
embodiment to define a bounding box around the polygons
making up the 3D computer model and then to define a
bounding sphere around the bounding box.

The 3D computer model is then moved so that the viewing
axis of the default viewing camera intersects the centre
of the bounding sphere.

Consequently, by moving the 3D computer model in dependence upon its extents in the x, y and z direction, the 3D computer model can be more accurately positioned at the centre of the field view of the default viewing camera.

In all of the embodiments described above, the first image of the 3D computer model of the subject object displayed at the third party apparatus comprises image data generated by rendering the 3D computer model with a virtual viewing camera.

However, the first image displayed at the third party apparatus may comprise an image recorded by the user at customer processing apparatus 2, 4 using camera 16.

This will be explained in more detail below in the seventh and eighth embodiments.

Seventh Embodiment

A seventh embodiment of the present invention will now be described.

The components of the seventh embodiment and the

processing operations performed by the components are the
same as those in any of the embodiments described above,
with the exception of the processing performed at step
S4-40 and step S4-42 (or step S4-42 alone in the case of
5   embodiments in which step S4-40 is not performed).

More particularly, in the seventh embodiment, the
processing at steps S4-40 and S4-42 is replaced by the
processing steps shown in Figure 11.

10   Referring to Figure 11, at step S11-2, processing
apparatus 6 considers the next input image previously
received from customer processing apparatus 2, 4 and
stored at step S4-34 for which the camera imagining
15   position and orientation was calculated at step S4-36.

Referring to Figure 12a, because the recording position
and orientation of each input image received from
customer processing apparatus 2, 4 has been calculated
20   by processing apparatus 6 at step S4-36, the camera
viewing axis 500 for each input image is defined relative
to the calibration pattern and 3D computer model in the
coordinate system in which the calibration pattern and
3D computer model are defined.

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